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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,526	07/18/2002	Eric Benazzi	PET 1977	4901

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MILLEN, WHITE, ZELANO & BRANIGAN, P.C.  
2200 CLARENDON BLVD.  
SUITE 1400  
ARLINGTON, VA 22201

EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT PAPER NUMBER

1764

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/018,526

Applicant(s)

BENAZZI ET AL.

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/30/2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is not on a separate sheet.

Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: It is uncertain if the specification contains a brief description of all the figures. The examiner requests that such a section be added to the specification.

Appropriate correction is required.

### *Claim Objections*

Claims 8, 10, and 11 are objected to because of the following informalities: A word such as "subjecting" is missing after the word "comprising" in each claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-7, 9, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/02503 in view of Goudriaan et al. (US 4,062,758).

The WO 98/02503 reference discloses a process for converting a hydrocarbon. The process comprises contacting a hydrocarbon feed in a first reaction zone that contains a first catalyst layer effective for the hydrotreating of the feed and then directly passing the effluent from the first catalyst layer to a second catalyst layer effective for the hydrocracking of the feed. Conditions in these first two reaction zones include temperatures ranging from 400° to 950°F

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(204° to 510°C), pressures ranging from 500 to 3500 psig (3.4 to 24.1 MPa), space velocities ranging from 0.1 to 20 hr<sup>-1</sup>, and hydrogen to hydrocarbon ratios ranging from 200 to 20000 SCF/bbl (35.6 to 3560 vol/vol). The catalyst in the first layer typically contains Group VI and VIII metals on an amorphous support. The catalyst in the second catalyst layer contains Group VI and VIII metals on a support such as a zeolite. The product from the first reaction zone is then separated by distillation to recover various fractions. A recovered fraction is then passed to a dewaxing zone operated at conditions including temperatures ranging from 550° to 850°F (288° to 454°C), pressures ranging from 15 to 3500 psig (0.01 to 24.1 MPa), space velocities ranging from 0.1 to 20 hr<sup>-1</sup>, and hydrogen to hydrocarbon ratios ranging from 1 to 50 moles of hydrogen per mole of hydrocarbon. Dewaxing catalysts comprise a hydrogenation component and a zeolite such as ZSM-48. The effluent from the dewaxing zone is then passed to a hydrotreatment zone containing a catalyst comprising a noble metal on an amorphous support. The product from the final hydrotreatment zone is then separated. See page 1, lines 28-30; page 2, lines 11-16 and 25-30; page 3, lines 1-11 and 21-30; page 4, lines 1-30; page 5, lines 1-8; page 6, lines 28-30; page 7, lines 1-15; page 8, lines 21-30; page 12, lines 8-20; page 13, lines 1-23; page 15, lines 6-10; page 17, lines 29-31; page 20, lines 23-31; page 21, lines 1-30; page 22, lines 1-15; page 23, lines 19-31; page 24, lines 1-16 and 26-31; page 25, lines 1-11; page 26, lines 5-32; and page 27, lines 1-11.

The WO 98/02503 reference does not disclose that the distillation of the effluent from the hydrocracking step is an atmospheric distillation, does not disclose the hydrofinishing conditions including the condition that the hydrofinishing treatment is carried out at a temperature that is lower than the dewaxing temperature by at least 20°C and at most 200°C, and does not disclose

the distillation of the hydrofinishing zone effluent to recover the claimed product. The WO 98/02503 reference also does not disclose that the hydrotreatment and hydrocracking stages are conducted in different reactors, does not disclose recycling a hydrocracking residue to at least one of the hydrotreatment or hydrocracking stages, and does not disclose an additional hydrocracking stage as in claim 7.

The Goudriaan reference discloses that atmospheric and vacuum distillation techniques are used to produce desired fractions. See the figures and column 1, line 52 through column 2, line 6.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 98/02503 by utilizing the hydrofinishing conditions as claimed because one would utilize any conditions including those that are claimed in order to produce a product having any desired characteristics.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 98/02503 by utilizing atmospheric and vacuum distillation techniques for the separation steps as suggested by Goudriaan because such techniques result in the production of various hydrocarbon fractions.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 98/02503 by performing the hydrotreating and hydrocracking in different reactors because the process would be expected to produce an equivalent product with the use of different reactors as compared to the use of one reactor.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 98/02503 by recycling residue as in claim 6 or further subjecting hydrocracking residue to an additional, different hydrocracking stage because the yield of desired products will increase.

Claims 2, 12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/02503 in view of Goudriaan et al. (US 4,062,758) as applied to claims 1, 5, 6, 7, and 9 above, and further in view of Cosyns et al. (US 4,225,461).

None of the previously discussed references discloses the claimed hydrofinishing composition.

The Cosyns reference discloses a catalyst that comprises at least one noble metal, a halogen, and a support. The catalyst is effective for hydrogenating aromatic hydrocarbons in oil cuts. See column 1, lines 8-11 and column 2, lines 25-33.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the previously discussed references by utilizing a catalyst comprising a noble metal, a halogen, and a support in the last hydrotreatment zone as suggested by Cosyns because such a catalyst is effective in processes that remove aromatic hydrocarbons, which is a desired result from the last hydrotreatment zone of the WO 98/02503 reference.

Claims 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/02503 in view of Goudriaan et al. (US 4,062,758) as applied to claims 5-7 above, and further in view of Degnan et al. (US 5,302,279).

Neither the WO 98/02503 reference nor the Goudriaan reference discloses the extraction of aromatics as in claims 8, 10, and 11.

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The Degnan reference discloses the extraction of aromatics from an oil feed prior to the dewaxing and hydrofinishing of the feed. See column 5, line 51 through column 6, line 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 98/02503 by extracting aromatics as suggested by Degnan because such aromatics are undesirable in certain hydrocarbon fractions and their removal by extraction will improve the quality of the final product.

Claims 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/02503 in view of Goudriaan et al. (US 4,062,758) and Degnan et al. (US 5,302,279) as applied to claims 8, 10, and 11 above, and further in view of Cosyns et al. (US 4,225,461).

None of the previously discussed references discloses the claimed hydrofinishing composition.

The Cosyns reference discloses a catalyst that comprises at least one noble metal, a halogen, and a support. The catalyst is effective for hydrogenating aromatic hydrocarbons in oil cuts. See column 1, lines 8-11 and column 2, lines 25-33.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the previously discussed references by utilizing a catalyst comprising a noble metal, a halogen, and a support in the last hydrotreatment zone as suggested by Cosyns because such a catalyst is effective in processes that remove aromatic hydrocarbons, which is a desired result from the last hydrotreatment zone of the WO 98/02503 reference.



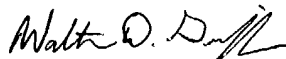
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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
August 5, 2004